Title (en)

A METHOD FOR MAKING A FERROELECTRIC MEMORY CELL IN A FERROELECTRIC MEMORY DEVICE, AND A FERROELECTRIC MEMORY DEVICE

Title (de)

VERFAHREN ZUR HERSTELLUNG EINER FERROELEKTRISCHEN SPEICHERZELLE IN EINEM FERROELEKTRISCHEN SPEICHERBAUSTEIN UND FERROELEKTRISCHER SPEICHERBAUSTEIN

Title (fr)

PROCEDE POUR FABRIQUER UNE CELLULE MEMOIRE FERROELECTRIQUE DANS UN DISPOSITIF MEMOIRE FERROELECTRIQUE, ET DISPOSITIF MEMOIRE FERROELECTRIQUE

Publication

EP 1550133 B1 20070221 (EN)

Application

EP 03760179 A 20030616

Priority

- NO 0300198 W 20030616
- NO 20022910 A 20020618

Abstract (en)

[origin: WO03107351A1] In a method for making ferroelectric memory cells in a ferroelectric memory device a first electrode comprising at least one metal layer and optionally at least one metal oxide layer is formed on a silicon substrate which has an optional insulating layer of silicon dioxide. A ferroelectric layer consisting of a thin film of ferroelectric polymer is formed on the top of the first electrode layer and at least a second electrode comprising at least one metal layer and at least one metal oxide layer is formed on the ferroelectric layer. The second electrode is deposited by thermal evaporation of a high-purity evaporation source from an effusion cell onto the ferroelectric layer in a vacuum chamber filled with a gas or a gas mixture. A ferroelectric memory device wherein the memory cell has been made with the above method, comprises at least a first and a second set of respectively parallel electrodes (510; 530), wherein the electrodes (510; 530) in a set are provided orthogonally to the electrodes (530; 510) of a nearest following set and with memory cells formed in a ferroelectric layer (520) provided between successive electrode sets, such that memory cells are defined in the crossings between the electrodes (510; 530) which contact the ferroelectric layer (520) on each side thereof.

IPC 8 full level

G11C 5/00 (2006.01); **G11C 11/22** (2006.01); **C23C 14/24** (2006.01); **H01L 21/285** (2006.01); **H01L 21/3205** (2006.01); H01L 27/115 (2006.01)

CPC (source: EP US)

H01L 21/32051 (2013.01 - EP US); H10B 53/00 (2023.02 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 03107351 A1 20031224; AT E354851 T1 20070315; AU 2003263671 A1 20031231; CA 2488829 A1 20031224; CN 1662994 A 20050831; DE 60312014 D1 20070405; EP 1550133 A1 20050706; EP 1550133 B1 20070221; JP 2006510193 A 20060323; NO 20022910 D0 20020618; NO 20022910 L 20031219; NO 322192 B1 20060828; RU 2005100834 A 20050710; RU 2281567 C2 20060810; US 2004209420 A1 20041021; US 2006073658 A1 20060406

DOCDB simple family (application)

NO 0300198 W 20030616; AT 03760179 T 20030616; AU 2003263671 A 20030616; CA 2488829 A 20030616; CN 03814175 A 20030616; DE 60312014 T 20030616; EP 03760179 A 20030616; JP 2004514081 A 20030616; NO 20022910 A 20020618; RU 2005100834 A 20030616; US 29439205 A 20051206; US 46342703 A 20030618